What is claimed is:

1. A photoelectric converting device comprising:

a photoelectric conversion circuit (PCC) for generating an analog electric signal in accordance with an amount of incident light, said PCC being selectively operable, irrespective of the amount of the light, in either one of (1) a first mode in which said PCC generates the analog electric signal in such a way that intensity thereof is logarithmically proportional to the amount of the light and (2) a second mode in which said PCC generates the analog electric signal in such a way that intensity thereof is linearly proportional to the amount of the light.

2. A photoelectric converting device as claimed in claim 1, further comprising:

a capacitor connected to said PCC so as to be charged by the analog electric signal outputted from said PCC.

3. A photoelectric converting device as claimed in claim 2, further comprising:

a reset circuit, connected to said capacitor, for resetting said capacitor.

4. A photoelectric converting device as claimed in claim 3, wherein said reset circuit comprises a transistor having a first electrode, a second electrode, and a control electrode, said first electrode being connected to said capacitor, wherein said capacitor is reset when an electric signal is applied to said control electrode so

as to make a path between said first and second electrodes conduct.

5. A photoelectric converting device as claimed in claim 1, further comprising:

an amplifying circuit, connected to said PCC, for amplifying the analog electric signal outputted from said PCC.

6. A photoelectric converting device as claimed in claim 5, further comprising:

a capacitor provided between said PCC and said amplifying circuit so as to be charged by the analog electric signal outputted from said PCC, wherein said amplifying circuit amplifies the analog electric signal by which said capacitor is charged.

7. A photoelectric converting device as claimed in claim 6, further comprising:

a reset circuit, connected to said capacitor, for resetting said capacitor.

8. A photoelectric converting device as claimed in claim 5, wherein no capacitor is provided between said PCC and said amplifying circuit.

9. A photoelectric converting device as claimed in claim 1,

wherein said PCC comprises:

a photoelectric conversion element that receives at a first electrode thereof a direct-current voltage;

a first transistor having a first electrode, a second electrode, and a control electrode, the first and control electrodes of said first transistor being connected to a second electrode of said photoelectric conversion element so as to receive an output current from said photoelectric conversion element, and

a second transistor having a first electrode, a second electrode, and a control electrode, said second transistor receiving at the first electrode thereof a direct-current voltage, the control electrode of said second transistor being connected to the control electrode of said first transistor, said second transistor outputting at the second electrode thereof the analog electric signal,

wherein, by varying a potential difference between the first and second electrodes of said first transistor, how said PCC operates is switched between said first and second modes.

10. A photoelectric converting device as claimed in claim 9, further comprising:

a reset circuit for initializing said PCC after said PCC has operated in said second mode and outputted the analog electric signal to an output signal line.

11. A photoelectric converting device as claimed in claim 9,

wherein said PCC has a third transistor having a first electrode, a second electrode, and a control electrode, the first electrode of said third transistor being

connected to the control electrode of said first and second transistors, the second electrode of said third transistor being connected to a direct-current voltage,

wherein, after said PCC has operated in said second mode and outputted the analog electric signal to an output signal line, said PCC is reset by varying a voltage level applied to the control electrode of said third transistor so as to make said third transistor conduct so that said first and second transistors discharge electric charge accumulated therein.

12. A photoelectric converting device as claimed in claim 1,

wherein said PCC comprises:

a photoelectric conversion element that receives at a first electrode thereof a direct-current voltage;

a first transistor having a first electrode, a second electrode, and a control electrode, the first electrode of said first transistor being connected to a second electrode of said photoelectric conversion element so as to receive an output current from said photoelectric conversion element, the second and control electrodes of said first transistor being connected together, and

a second transistor having a first electrode, a second electrode, and a control electrode, said second transistor receiving at the first electrode thereof a direct-current voltage, the control electrode of said second transistor being connected to the first electrode of said first transistor, said second transistor outputting at the second electrode thereof the analog electric signal,

wherein, by varying a potential difference between the first and second

electrodes of said first transistor, how said PCC operates is switched between said first and second modes.

13. A photoelectric converting device as claimed in claim 12, further comprising:

a reset circuit for initializing said PCC after said PCC has operated in said second mode and outputted the analog electric signal to an output signal line.

14. A photoelectric converting device as claimed in claim 12,

wherein said PCC has a third transistor having a first electrode, a second electrode, and a control electrode, the first electrode of said third transistor being connected to the control electrode of said second transistor, the second electrode of said third transistor being connected to a direct-current voltage,

wherein, after said PCC has operated in said second mode and outputted the analog electric signal to an output signal line, said PCC is reset by varying a voltage level applied to the control electrode of said third transistor so as to make said third transistor conduct so that said first and second transistors discharge electric charge accumulated therein.

15. A photoelectric converting device as claimed in claim 1,

wherein said PCC comprises:

a photoelectric conversion element that receives at a second electrode thereof a direct-current voltage;

a first transistor having a first electrode, a second electrode, and a control electrode, the second electrode of said first transistor being connected to a first electrode of said photoelectric conversion element, and

a second transistor having a first electrode, a second electrode, and a control electrode, said second transistor receiving at the first electrode thereof a direct-current voltage, the control electrode of said second transistor being connected to the second electrode of said first transistor, said second transistor outputting at the second electrode thereof the analog electric signal,

wherein, by varying a voltage fed to the control electrode of said first transistor, how said PCC operates is switched between said first and second modes.

16. A photoelectric converting device as claimed in claim 15,

wherein said PCC has a third transistor having a first electrode, a second electrode, and a control electrode, the first electrode of said third transistor being connected to the second electrode of said first transistor, the second electrode of said third transistor being connected to the first electrode of said photoelectric conversion element, said third transistor thus being connected in series with said first transistor and said photoelectric conversion element,

wherein, while said PCC is operating in said first mode, said third transistor is kept in a conducting state during a shooting operation and is kept in a non-conducting state during an operation for detecting variations in sensitivity of individual pixels, and

wherein, while said PCC is operating in said second mode, said third

transistor is kept in an conducting state all the time.

17. A photoelectric converting device comprising:

a photoelectric conversion circuit (PCC) for generating an analog electric signal in accordance with an amount of incident light, said PCC being selectively operable, based on a signal inputted to said photoelectric converting device, in either one of (1) a first mode in which said PCC generates the analog electric signal in such a way that intensity thereof is logarithmically proportional to the amount of the light and (2) a second mode in which said PCC generates the analog electric signal in such a way that intensity thereof is linearly proportional to the amount of the light.

18. A photoelectric converting device as claimed in claim 17, further comprising:

a capacitor connected to said PCC so as to be charged by the analog electric signal outputted from said PCC.

19. A photoelectric converting device as claimed in claim 18, further comprising:

a reset circuit, connected to said capacitor, for resetting said capacitor.

20. A photoelectric converting device as claimed in claim 19, wherein said reset circuit comprises a transistor having a first electrode, a second electrode,

and a control electrode, said first electrode being connected to said capacitor, wherein said capacitor is reset when an electric signal is applied to said control electrode so as to make a path between said first and second electrodes conduct.

21. A photoelectric converting device as claimed in claim 17, further comprising:

an amplifying circuit, connected to said PCC, for amplifying the analog electric signal outputted from said PCC.

22. A photoelectric converting device as claimed in claim 21, further comprising:

a capacitor provided between said PCC and said amplifying circuit so as to be charged by the analog electric signal outputted from said PCC, wherein said amplifying circuit amplifies the analog electric signal by which said capacitor is charged.

23. A photoelectric converting device as claimed in claim 22, further comprising:

a reset circuit, connected to said capacitor, for resetting said capacitor.

24. A photoelectric converting device as claimed in claim 21, wherein no capacitor is provided between said PCC and said amplifying circuit.

25. A photoelectric converting device as claimed in claim 17,

wherein said PCC comprises:

a photoelectric conversion element that receives at a first electrode thereof a direct-current voltage;

a first transistor having a first electrode, a second electrode, and a control electrode, the first and control electrodes of said first transistor being connected to a second electrode of said photoelectric conversion element so as to receive an output current from said photoelectric conversion element, and

a second transistor having a first electrode, a second electrode, and a control electrode, said second transistor receiving at the first electrode thereof a direct-current voltage, the control electrode of said second transistor being connected to the control electrode of said first transistor, said second transistor outputting at the second electrode thereof the analog electric signal,

wherein, by varying a potential difference between the first and second electrodes of said first transistor, how said PCC operates is switched between said first and second modes.

26. A photoelectric converting device as claimed in claim 25, further comprising:

a reset circuit for initializing said PCC after said PCC has operated in said second mode and outputted the analog electric signal to an output signal line.

27. A photoelectric converting device as claimed in claim 25,

wherein said PCC has a third transistor having a first electrode, a second electrode, and a control electrode, the first electrode of said third transistor being connected to the control electrode of said first and second transistors, the second electrode of said third transistor being connected to a direct-current voltage,

wherein, after said PCC has operated in said second mode and outputted the analog electric signal to an output signal line, said PCC is reset by varying a voltage level applied to the control electrode of said third transistor so as to make said third transistor conduct so that said first and second transistors discharge electric charge accumulated therein.

28. A photoelectric converting device as claimed in claim 17,

wherein said PCC comprises:

a photoelectric conversion element that receives at a first electrode thereof a direct-current voltage;

a first transistor having a first electrode, a second electrode, and a control electrode, the first electrode of said first transistor being connected to a second electrode of said photoelectric conversion element so as to receive an output current from said photoelectric conversion element, the second and control electrodes of said first transistor being connected together, and

a second transistor having a first electrode, a second electrode, and a control electrode, said second transistor receiving at the first electrode thereof a direct-current voltage, the control electrode of said second transistor being connected to the first electrode of said first transistor, said second transistor outputting at the

second electrode thereof the analog electric signal,

wherein, by varying a potential difference between the first and second electrodes of said first transistor, how said PCC operates is switched between said first and second modes.

29. A photoelectric converting device as claimed in claim 28, further comprising:

a reset circuit for initializing said PCC after said PCC has operated in said second mode and outputted the analog electric signal to an output signal line.

30. A photoelectric converting device as claimed in claim 28,

wherein said PCC has a third transistor having a first electrode, a second electrode, and a control electrode, the first electrode of said third transistor being connected to the control electrode of said second transistor, the second electrode of said third transistor being connected to a direct-current voltage,

wherein, after said PCC has operated in said second mode and outputted the analog electric signal to an output signal line, said PCC is reset by varying a voltage level applied to the control electrode of said third transistor so as to make said third transistor conduct so that said first and second transistors discharge electric charge accumulated therein.

31. A photoelectric converting device as claimed in claim 17,

wherein said PCC comprises:

a photoelectric conversion element that receives at a second electrode thereof a direct-current voltage;

a first transistor having a first electrode, a second electrode, and a control electrode, the second electrode of said first transistor being connected to a first electrode of said photoelectric conversion element, and

a second transistor having a first electrode, a second electrode, and a control electrode, said second transistor receiving at the first electrode thereof a direct-current voltage, the control electrode of said second transistor being connected to the second electrode of said first transistor, said second transistor outputting at the second electrode thereof the analog electric signal,

wherein, by varying a voltage fed to the control electrode of said first transistor, how said PCC operates is switched between said first and second modes.

32. A photoelectric converting device as claimed in claim 31,

wherein said PCC has a third transistor having a first electrode, a second electrode, and a control electrode, the first electrode of said third transistor being connected to the second electrode of said first transistor, the second electrode of said third transistor being connected to the first electrode of said photoelectric conversion element, said third transistor thus being connected in series with said first transistor and said photoelectric conversion element,

wherein, while said PCC is operating in said first mode, said third transistor is kept in a conducting state during a shooting operation and is kept in a non-conducting state during an operation for detecting variations in sensitivity of

individual pixels, and

wherein, while said PCC is operating in said second mode, said third transistor is kept in an conducting state all the time.

33. A photoelectric converting device comprising:

a photoelectric conversion circuit (PCC) for generating an analog electric signal in accordance with an amount of incident light, wherein intensity of the analog electric signal is logarithmically proportional to the amount of the light; and

an amplifying circuit, connected to said PCC, for amplifying the analog electric signal outputted from said PCC, wherein no capacitor is provided between said PCC and said amplifying circuit.

34. A photoelectric converting device as claimed in claim 33,

wherein said amplifying circuit is an amplifying transistor that amplifies the analog electric signal outputted from said PCC and fed to the control electrode without being integrated.

35. A photoelectric converting device as claimed in claim 34,

wherein the analog electric signal outputted from said PCC is a voltage signal, and

wherein said amplifying transistor is a MOS transistor that receives at a gate electrode thereof the voltage signal outputted from said PCC, that receives at a first electrode thereof a direct-current voltage, and that has a second electrode thereof

connected to an output signal line.

36. A photoelectric converting device as claimed in claim 35, further comprising:

a load resistor or constant-current source that is connected to the output signal line to which the amplifying transistor outputs a signal.

37. A photoelectric converting device as claimed in claim 36,

wherein said load resistor or constant-current source is a resistive transistor having a first electrode thereof connected to the output signal line, having a second electrode thereof connected to a direct-current voltage, and having a control electrode thereof connected to a direct-current voltage.

38. A photoelectric converting device as claimed in claim 37

wherein said amplifying transistor is an N-channel MOS transistor, and the direct-current voltage applied to the first electrode of said amplifying transistor is higher than the direct-current voltage connected to the second electrode of said resistive transistor.

39. A photoelectric converting device as claimed in claim 37

wherein said amplifying transistor is a P-channel MOS transistor, and the direct-current voltage applied to the first electrode of said amplifying transistor is lower than the direct-current voltage connected to the second electrode of said

resistive transistor.

40. A photoelectric converting device as claimed in claim 33,

wherein said PCC comprises:

a photoelectric conversion element that receives at a first electrode thereof a direct-current voltage; and

a transistor having a first electrode, a second electrode, and a control electrode, the first and control electrodes of said transistor being connected to a second electrode of the photoelectric conversion element so as to receive an output current from the photoelectric conversion element,

wherein a voltage signal appearing at the control electrode of said transistor is used as an output signal.

41. A photoelectric converting device as claimed in claim 33,

wherein said PCC comprises:

a photoelectric conversion element that receives at a first electrode thereof a direct-current voltage; and

a transistor having a first electrode, a second electrode, and a control electrode, the first electrode of said transistor being connected to a second electrode of the photoelectric conversion element so as to receive an output current from the photoelectric conversion element, the second and control electrodes of said transistor being connected together,

wherein a voltage signal appearing at the first electrode of said transistor is

used as an output signal.

42. A photoelectric converting device as claimed in claim 33,

wherein said PCC comprises:

a photoelectric conversion element that receives at a first electrode thereof a direct-current voltage; and

a transistor having a first electrode, a second electrode, and a control electrode, the first electrode of said transistor being connected to a second electrode of the photoelectric conversion element so as to receive an output current from the photoelectric conversion element, said transistor receiving at the control electrode thereof a direct-current voltage,

wherein a voltage signal appearing at the first electrode of said transistor is used as an output signal.

43. A photoelectric converting device as claimed in claim 33,

wherein said PCC comprises:

a photodiode that receives at a first electrode thereof a direct-current voltage; and

a MOS transistor having a first electrode, a second electrode, and a gate electrode, the first and gate electrodes of said MOS transistor being connected to a second electrode of the photodiode so as to receive an output current from the photodiode,

wherein a voltage signal appearing at the gate electrode of said MOS

transistor when said MOS transistor is made to operate in a subthreshold region below a threshold level thereof is used as an output signal.

44. A photoelectric converting device as claimed in claim 33,

wherein said PCC comprises:

a photodiode that receives at a first electrode thereof a direct-current voltage; and

a MOS transistor having a first electrode, a second electrode, and a gate electrode, the first electrode of said MOS transistor being connected to a second electrode of the photodiode so as to receive an output current from the photodiode, the second and gate electrodes of said MOS transistor being connected together,

wherein a voltage signal appearing at the first electrode of said MOS transistor when said MOS transistor is made to operate in a subthreshold region below a threshold level thereof is used as an output signal.

45. A photoelectric converting device as claimed in claim 33,

wherein said PCC comprises:

a photodiode that receives at a first electrode thereof a direct-current voltage; and

a MOS transistor having a first electrode, a second electrode, and a gate electrode, the first electrode of said MOS transistor being connected to a second electrode of the photodiode so as to receive an output current from the photodiode, said MOS transistor receiving at the gate electrode thereof a direct-current voltage,

wherein a voltage signal appearing at the first electrode of said MOS transistor when said MOS transistor is made to operate in a subthreshold region below a threshold level thereof is used as an output signal.

46. A photoelectric converting device comprising:

a photoelectric conversion circuit (PCC) for generating an analog electric signal in accordance with an amount of incident light, wherein intensity of the analog electric signal is logarithmically proportional to the amount of the light; and

an amplifying circuit, connected to said PCC, for amplifying the analog electric signal outputted from said PCC, wherein no integrator circuit is provided between said PCC and said amplifying circuit.

47. A photoelectric converting device as claimed in claim 46,

wherein said amplifying circuit is an amplifying transistor that amplifies the analog electric signal outputted from said PCC and fed to the control electrode without being integrated.

48. A photoelectric converting device as claimed in claim 47,

wherein the analog electric signal outputted from said PCC is a voltage signal, and

wherein said amplifying transistor is a MOS transistor that receives at a gate electrode thereof the voltage signal outputted from said PCC, that receives at a first electrode thereof a direct-current voltage, and that has a second electrode thereof

connected to an output signal line.

49. A photoelectric converting device as claimed in claim 48, further comprising:

a load resistor or constant-current source that is connected to the output signal line to which the amplifying transistor outputs a signal.

50. A photoelectric converting device as claimed in claim 49,

wherein said load resistor or constant-current source is a resistive transistor having a first electrode thereof connected to the output signal line, having a second electrode thereof connected to a direct-current voltage, and having a control electrode thereof connected to a direct-current voltage.

51. A photoelectric converting device as claimed in claim 50,

wherein said amplifying transistor is an N-channel MOS transistor, and the direct-current voltage pplied to the first electrode of said amplifying transistor is higher than the direct-current voltage connected to the second electrode of said resistive transistor.

52. A photoelectric converting device as claimed in claim 50,

wherein said amplifying transistor is a P-channel MOS transistor, and the direct-current voltage applied to the first electrode of said amplifying transistor is lower than the direct-current voltage connected to the second electrode of said

resistive transistor.

53. A photoelectric converting device as claimed in claim 46,

wherein said PCC comprises:

a photoelectric conversion element that receives at a first electrode thereof a direct-current voltage; and

a transistor having a first electrode, a second electrode, and a control electrode, the first and control electrodes of said transistor being connected to a second electrode of the photoelectric conversion element so as to receive an output current from the photoelectric conversion element,

wherein a voltage signal appearing at the control electrode of said transistor is used as an output signal.

54. A photoelectric converting device as claimed in claim 46,

wherein said PCC comprises:

a photoelectric conversion element that receives at a first electrode thereof a direct-current voltage; and

a transistor having a first electrode, a second electrode, and a control electrode, the first electrode of said transistor being connected to a second electrode of the photoelectric conversion element so as to receive an output current from the photoelectric conversion element, the second and control electrodes of said transistor being connected together,

wherein a voltage signal appearing at the first electrode of said transistor is

used as an output signal.

55. A photoelectric converting device as claimed in claim 46,

wherein said PCC comprises:

a photoelectric conversion element that receives at a first electrode thereof a direct-current voltage; and

a transistor having a first electrode, a second electrode, and a control electrode, the first electrode of said transistor being connected to a second electrode of the photoelectric conversion element so as to receive an output current from the photoelectric conversion element, said transistor receiving at the control electrode thereof a direct-current voltage,

wherein a voltage signal appearing at the first electrode of said transistor is used as an output signal.

56. A photoelectric converting device as claimed in claim 46,

wherein said PCC comprises:

a photodiode that receives at a first electrode thereof a direct-current voltage; and

a MOS transistor having a first electrode, a second electrode, and a gate electrode, the first and gate electrodes of said MOS transistor being connected to a second electrode of the photodiode so as to receive an output current from the photodiode,

wherein a voltage signal appearing at the gate electrode of said MOS

transistor when said MOS transistor is made to operate in a subthreshold region below a threshold level thereof is used as an output signal.

57. A photoelectric converting device as claimed in claim 46,

wherein said PCC comprises:

a photodiode that receives at a first electrode thereof a direct-current voltage; and

a MOS transistor having a first electrode, a second electrode, and a gate electrode, the first electrode of said MOS transistor being connected to a second electrode of the photodiode so as to receive an output current from the photodiode, the second and gate electrodes of said MOS transistor being connected together,

wherein a voltage signal appearing at the first electrode of said MOS transistor when said MOS transistor is made to operate in a subthreshold region below a threshold level thereof is used as an output signal.

58. A photoelectric converting device as claimed in claim 46,

wherein said PCC comprises:

a photodiode that receives at a first electrode thereof a direct-current voltage; and

a MOS transistor having a first electrode, a second electrode, and a gate electrode, the first electrode of said MOS transistor being connected to a second electrode of the photodiode so as to receive an output current from the photodiode, said MOS transistor receiving at the gate electrode thereof a direct-current voltage,

wherein a voltage signal appearing at the first electrode of said MOS transistor when said MOS transistor is made to operate in a subthreshold region below a threshold level thereof is used as an output signal.